

37. (NEW) A method for determining elements in an unmixing matrix used to produce output signals from a set of superimposed, statistically mutually independent input signals, by optimization of a statistical independence of the output signals, said method comprising:

setting at least one diagonal parameter in the unmixing matrix to a predetermined value;

repeatedly performing a time-delayed decorrelation calculation to determine intrinsic values in the unmixing matrix until cross-correlations are substantially minimized; and

carrying out cumulant minimization using a neural network, with the intrinsic values determined by a final time-delayed decorrelation calculation being used as start values for the cumulant minimization.

38. (NEW) A method for determining elements in an unmixing matrix used to produce output signals from a set of superimposed, statistically mutually independent input signals, by optimization of a statistical independence of the output signals, said method comprising:

limiting the unmixing matrix to a finite impulse response;

repeatedly performing a time-delayed decorrelation calculation to determine intrinsic values in the unmixing matrix until cross-correlations are substantially minimized; and

carrying out cumulant minimization, with the intrinsic values determined by a final time-delayed decorrelation calculation being used as start values for the cumulant minimization and the unmixing matrix stabilized by projection onto a unit circle.

39. (NEW) A method for determining elements in an unmixing matrix used to produce output signals from a set of superimposed, statistically mutually independent input signals, by optimization of a statistical independence of the output signals, said method comprising:

defining the unmixing matrix as limited to a finite impulse response and having at least one diagonal parameter set to a predetermined value;

repeatedly performing a time-delayed decorrelation calculation to determine intrinsic values in the unmixing matrix until cross-correlations are substantially minimized; and

carrying out cumulant minimization using a neural network, with the intrinsic values determined by a final time-delayed decorrelation calculation being used as start values for the cumulant minimization and the unmixing matrix stabilized by projection onto a unit circle.

40. A system for determining parameters of a technical system to determine output signals from a set of superimposed, statistically mutually independent input signals, comprising: